

**REMARKS:**

1. Objections and Rejections

Applicants acknowledge with appreciation that the Examiner does not renew the previous objections to claims 1 and 3. Nevertheless, claims 1-6 again stand rejected under 35 U.S.C. § 112, ¶1, as allegedly failing to comply with the written description requirement. Claims 1-6 now stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by each of Japanese Patent Publication No. JP-A-7-280484 to Tomoko and U.S. Patent No. 2,360,123 to Gerstung et al. (“Gerstung”) and U.S. Patent No. 3,768,149 to Swaney, Jr. Applicants respectfully disagree.

2. 35 U.S.C. § 112, ¶1

Claims 1-6 stand rejected as allegedly failing to comply with the written description requirement. In particular, the Office Action contends that “there is no support for **both** an outer surface and an inner surface of the connecting portion having a length (T) as claimed.” Office Action, Page 4, Lines 3-5 (bolding in original). Applicants respectfully disagree.

Referring to their Fig. 4, Applicants state that “[l]ength (T) of each connecting portion 26 and 27 in the longitudinal direction of each waving strip is less than or equal to thickness (t) of a plate forming each waving strip.” Appl’n, Para. [0037] (emphasis added); see also Appl’n, Para. [0010], **Figs. 5-6**. This description, and the more general description in Para. [0010], do not refer to length (T) of the waving strip surface at the connecting portion, but instead refer to length (T) “of each connecting portion.” The connecting portion extends between one surface and the other. Referring to Para. [0010], Applicants explain that:

[t]he fin for a heat exchanger comprises a plurality of waving strips, each having a repeated structure comprising a first flat portion, a first inclined plate portion extending from the first flat portion at a first inclination angle, a second flat portion extending from the first inclined plate portion in parallel to the first flat portion, and a second inclined plate portion extending from the second flat portion at a second inclination angle. . . . Adjacent waving strips are connected at connecting portions between the first flat portions of the adjacent waving strips and between the second flat portions of the adjacent waving strips.

(Emphasis added.) Thus, the flat portions are portions of, not surfaces of, the waving strips, and it is the flat portions, not merely their surfaces, which are connected by a connecting portion. Para. [0010] concludes by stating that “[a] length (T) of each connecting portion in the

longitudinal direction of each waving strip is less than or equal to about a thickness (t) of the plate forming each waving strip.” (Emphasis added.) Because the connecting portion is not simply a line on one surface at the connecting portion, but the portion or area formed between waving strips, Applicants maintain that the definition of length (T) “of the connecting portion . . . in the longitudinal direction of each waving strip” describes the length of, i.e., over or across, the connecting portion. Therefore, Applicants respectfully request that the Examiner withdraw the written description rejections.

3. 35 U.S.C. § 102(b)

Claims 1-6 stand rejected as allegedly anticipated by each of Tomoko and Gerstung and Swaney, Jr. “A claim is anticipated if and only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” and “the identical invention must be shown in as complete detail as contained in the claim.” MPEP 2131 (emphasis added). The Office Action alleges that either Tomoko or Gerstung or Swaney, Jr. describe each and every element as set forth in claims 1-6. Applicants respectfully disagree.

Initially, the Office Action states that the Examiner is unsure whether the connecting portion is “the physical portion of the fin where two adjacent waving strips are connected but not severed, or [where the adjacent waving strips are] severed but still contacting one another?” Office Action, Page 4, Lines 9-11. To clarify, the connecting portion is defined by where the adjacent strips are severed. As noted above, Applicants’ claims 1 and 3 describe a fin for a heat exchanger comprising a plurality of waving strips, in which “adjacent waving strips are connected at connecting portions between said first flat portions of said adjacent waving strips and between said second flat portions of said adjacent waving strips, a length (T) of an outer surface and an inner surface of each connecting portion in said longitudinal direction of each waving strip is less than or equal to about a thickness (t) of a plate forming each waving strip.” Applicants added the specific references to “an outer surface and an inner surface” to the originally filed claim language by amendment in an effort to clarify this distinction. See Appl’n, Para. [0037]; see also Appl’n, Para. [0010], **Figs. 5-6**. As such, Applicants’ claimed invention describes the connecting length (T), measured at and between both the outer and the inner surface of the connecting portion, as less than or equal to about the plate thickness (t).

a. Tomoko

With respect to Tomoko, the Office Action states that “the **connection length** [L/2] is not the same as **the length (T) of the connecting portion.**” Office Action, Page 4, Line 14 (bolding in the original). Further, the Office Action asserts that Applicants have not explained why they employ different definitions to define the length of the connecting portion for Tomoko and for their own apparatus. Applicants, however, are not applying different definitions. The length (T) of Applicants’ connecting portion is selected to achieve the advantages of the invention and is the “length (T) of the connecting portion.” The connection length (L/2) is the maximum length of the connecting portion between the fin strips of **Fig. 13**.

Regardless of whether the connection length (L/2) might be the same as the length (T) at one surface of the connection depicted in **Fig. 13**, the Office Action fails to demonstrate that Tomoko discloses a connecting portion with a length (T) “of the connecting portion.” In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejections based on Tomoko.

b. Gerstung

The Office Action contends that Gerstung’s **Fig. 4** shows a length (T) of the connecting portions on both the inner and outer surface of the fin and a thickness (t) that is greater than length (T). Nevertheless, as Gerstung states,

[t]he corrugations in the elements 47 are approximately rectangular in contour and are flat crested and the adjoining elements of each plate are, except where the crests of the corrugations overlap, separated from each other to provide openings 48 through which oil may pass from one corrugation to another lengthwise of the plate.

Gerstung, Page 2, Column 1, Lines 60-66 (emphasis added). Because the distinction drawn in the specification is between the overlapping crests and the openings 48. The definition of a length by reference to the “crests” does not define the length or surfaces opposite the crests. Unlike Applicants’ claims, there is no reference in Gerstung to the length “of each connecting portion.” Applicants maintain that Gerstung does not suggest, much less disclose, the limitation of the connecting portions to length (T). The Office Action labels a connection length (T) at the surface of the connection between adjacent fins and a thickness (t) of the fin in Gerstung’s **Fig. 4**. Office Action, Page 5 (annotated **Fig. 4** of Gerstung). Nevertheless, Gerstung does not discuss or even identify these labeled elements, and Gerstung does not state that its drawings are

made to scale. Based the annotated version of Gerstung's **Fig. 4**, the Office Action contends that the labeled thickness ( $t$ ) of Gerstung's fin is greater than the labeled, surface length ( $T$ ). Even if Gerstung's **Fig. 4** were drawn to scale and even if the Office Action properly labels connection length ( $T$ ) at the surface of the connection between Gerstung's adjacent fins, Gerstung does not disclose that length ( $T$ ) is the length of Gerstung's connection, as Applicants describe the "length of the connection portion." In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejections based on Gerstung.

c. Swaney, Jr.

With respect to the anticipation rejection based on Swaney, Jr., the Office Action provides no explanation of this rejection. Initially, Applicants challenge the rejection based on that deficiency alone. Nevertheless, after reviewing Swaney, Jr., Applicants find nothing in Swaney, Jr.'s disclosure that makes it a stronger or different basis for an anticipation rejection of claims 1-6, than either Tomoko or Gerstung. Swaney Jr. does not supply the elements that are missing from Tomoko or Gerstung, as set for the above. Therefore, in view of the foregoing remarks with respect to Tomoko and Gerstung, Applicants respectfully request that the Examiner withdraw the anticipation rejection based on Swaney, Jr.

CONCLUSION

Applicants respectfully submit that this application, as amended, is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that a further interview with Applicants' representatives, either in person or by telephone, would expedite prosecution of this application, we would welcome such an opportunity. Applicants believe that

no additional fees are due as a result of this responsive amendment. Nevertheless, in the event of any variance between the fees determined by Applicants and those determined by the U.S. Patent and Trademark Office, please charge any such variance to the undersigned's Deposit Account No. 02-0375.

Respectfully submitted,

BAKER BOTTS L.L.P.

Dated: July 7, 2004

By:

James B. Arpin

Registration No. 33,470

Baker Botts L.L.P.  
The Warner; Suite 1300  
1299 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004-2400  
(202) 639-7700 (telephone)  
(202) 639-7890 (facsimile)

JBA/dh

Enclosures